What to look for when monitoring animal diseases?

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What to look for when monitoring animal diseases?

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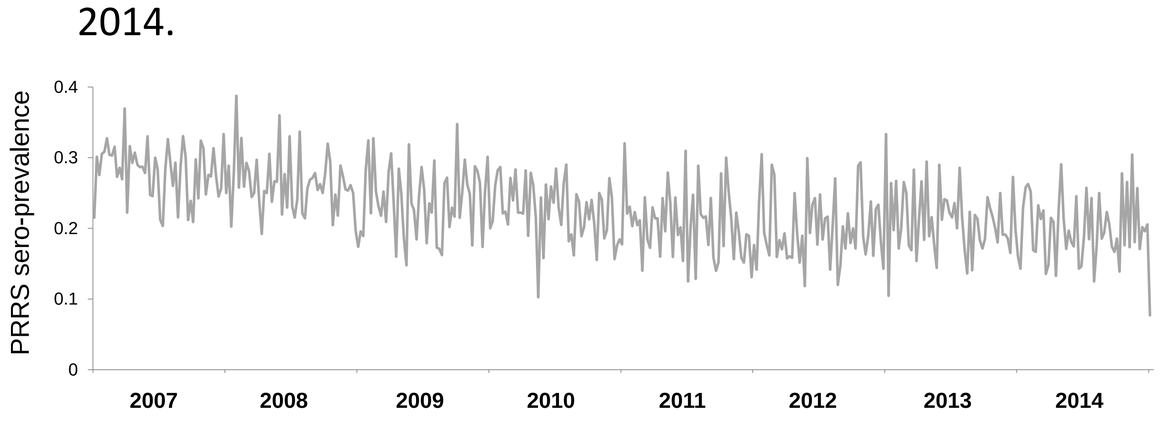
1. Introduction and objective

- Porcine reproductive and respiratory syndrome (PRRS) surveillance program is based on serological tests performed on regular basis in Danish swine herds.
- We evaluated 4 alternative methods for generating alarms based on serological test results, where **no reports of disease spread were made during the period.**

2. How did we do it?

Data management

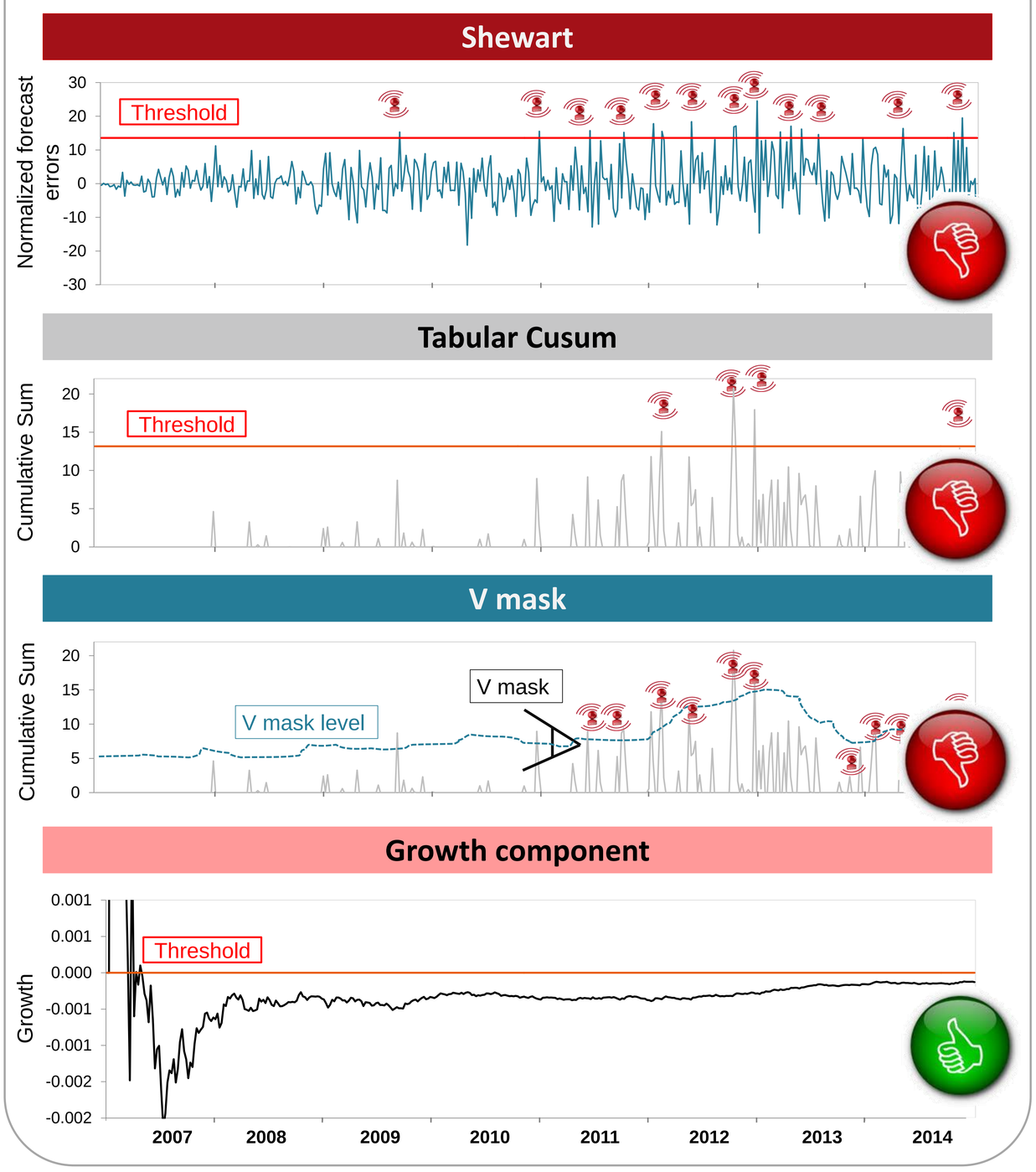
- The herds were classified as positive for PRRS if at least 2 individual blood samples were positive per submission.
- The weekly PRRS-seroprevalence was calculated from 2007 to 2014.



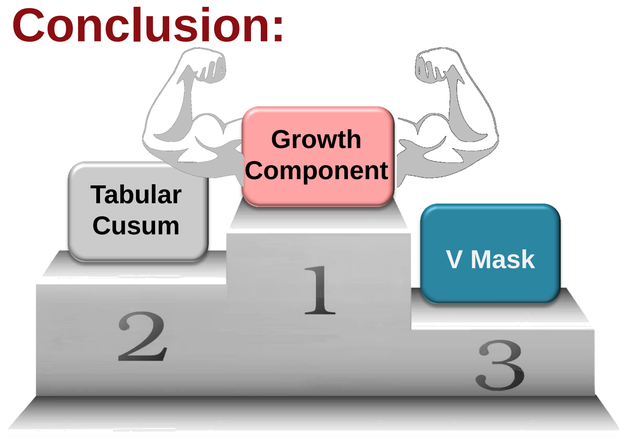
Time series decomposition and detection methods

- **A Dynamic Generalized Linear Model was used to model the data.**
- Alarms generated from 2009 to 2014: 2 years of "burn in" for the model
- Detection methods used:
  - Normalized forecast errors: Shewart, Tabular Cusum, V mask
  - Growth model component: positive values based on 95%CI

3. What did we find?



4. Conclusion:



Monitoring the growth component reduced the number of false alarms.

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